

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF NORTH CAROLINA
STATESVILLE DIVISION
DOCKET NO. 5:16-cv-00157-MOC-DCK

SIMPSON PERFORMANCE PRODUCTS, INC.,)	
)	
Plaintiff,)	
)	
Vs.)	ORDER
)	
ZAMP INC.,)	
)	
Defendant.)	

In this patent infringement case, Simpson Performance Products, Inc. (“Simpson” or “plaintiff”) accuses Zamp, Inc. (“Zamp” or “defendant”) of infringing all nineteen claims of U.S. Patent No. 9,351,529 (the “529 patent”), which relates to a system of tethers and a helmet cooperating with the tethers for controlling a driver’s head during operation of a vehicle. Simpson owns the ‘529 patent. Zamp produces a similar head and neck restraint product called the Zamp NT001003 Z-Tech Series 1A (the “Accused Device”). Simpson is suing Zamp for direct infringement and inducing infringement of the ‘529 patent.

I. Jurisdiction

Simpson is a corporation organized under the laws of the State of Texas and has a place of business in Mooresville, North Carolina. Zamp is a corporation organized under the laws of the State of Washington, having a principal place of business in Vancouver, Washington. Zamp does not contest personal jurisdiction. This Court has jurisdiction over the subject matter of this lawsuit under 28 U.S.C. §§ 1331 and 1338(a), this Court has personal jurisdiction over the parties, and venue is appropriate in this district pursuant to 28 U.S.C. §§ 1391(b), (c) and 1400(b).

II. Procedural History

As usually occurs in patent litigation, the parties have been unable to agree on the meaning of several material claim terms and phrases, which requires Markman claim construction. Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996). The Court conducted a Markman hearing on November 15, 2017. On January 8, 2018, the Court issued an Order (#28) staying the case pending resolution of a third-party petition for *inter partes* review conducted by the United States Patent and Trademark Office (“USPTO”) relating to the ‘529 patent. Ultimately, the Patent Trial and Appeal Board (“PTAB”) denied the petition on May 4, 2018 and the motion for reconsideration on July 25, 2018. See Mot. Lift Stay (#33). Given the PTAB’s determinations, the stay was lifted on July 30, 2018. This case is now ripe for review.

III. Background

A. The Patented Technology

The ‘529 patent pertains to a restraint device that protects a race-car driver’s head and neck when subjected to high acceleration, deceleration, and vibration forces. The invention is within the field of safety devices worn by a driver operating a high-performance vehicle. More specifically, the restraint device controls movement of, and reduces forces applied to, a driver’s head, neck, and spine during a drag race or collision event.

Traditionally, drivers of high-performance vehicles have employed standard five- or six-point seat belt assemblies, in which all of the belts tie into a common buckle, to restrain the driver during racing. Although standard seat belt assemblies effectively constrain the torso to the seat assembly during a collision event, they do not restrain the driver’s head or neck. As such, the driver’s head may move forward, backward, sideways, or oscillate side-to-side depending on the force applied.

Stock car racing is one of the most popular spectator sports in North America. The sport has its origins in the Western District of North Carolina, with Charlotte hosting the very first National Association of Stock Car Auto Racing (“NASCAR”) Strictly Stock race in June 1949. Charlotte is also home to the NASCAR Plaza, widely considered NASCAR’s “unofficial headquarters,” which adjoins the NASCAR Hall of Fame. While NASCAR and other motorsports exist mainly for entertainment, they also play an important role in development of safety technology, much of which is adopted by the automotive industry, benefitting even those who are not race enthusiasts.

Over the years, numerous race-car drivers have lost their lives in competition or practice due to the inherently dangerous nature of the sport. Among the leading causes of deaths for race car drivers is basilar skull fracture, which occurs when a driver’s head continues to move forward while the body is restrained by seat belts during high-speed impact. Basilar skull fracture is not just a fracture at the base of the skull. It involves the cracking of a small circular bone about the size of a quarter at the bottom rear of the skull, where the bone and cartilage are weakest. Cracking of the little bone can cut the interior carotid arteries, and the sufferer can bleed to death in a matter of seconds. There also can be damage to the areas of the brainstem that control breathing and heart rate. Michael Hill & Jason McKinley, NASCAR Safety Improvements Save Lives, RGA Reinsurance Company (Apr. 2, 2012), <https://www.rgare.com/knowledge-center/media/research/nascar-safety-improvements-save-lives>. Such injuries are not unique to NASCAR; they occur across the array of automotive racing disciplines, both professional and amateur. The death of Dale Earnhardt in 2001 ultimately led NASCAR officials to mandate the use of the Head and Neck Support (the “HANS”) device to prevent basilar skull fractures. Bruce

Martin, Mandated 10 years ago, HANS device has ushered in era of safety, Sports Illustrated (Aug. 4, 2011), <https://www.si.com/more-sports/2011/08/04/impact-ofhansdevice>.

1. The HANS and Hutchens Device

Both the HANS device and the Hutchins device were designed to minimize the risk of serious neck injuries in an auto racing crash. The HANS Device has been around since the early 1980s but gained notoriety following the death of Dale Earnhardt in 2001. Earnhardt was not wearing one when he crashed. Before Earnhardt's death, many motorsports drivers weren't willing to wear the head and neck restraint, claiming it was uncomfortable and restrictive. NASCAR has since made its use mandatory.

The HANS device is largely synonymous with head and neck restraint technology. The U-shaped device slides on like a football players' shoulder pads, then hooks onto the helmet. The device restrains the driver's head relative to the torso, not the seat of the car. There are two portions to the device: the back portion and the shoulder portion.

The back portion of the device, which fits around the neck and resembles a head rest, is a carbon fiber shoulder collar with a single flexible tether that loops around the back of the raised collar. The two ends of the tether extend from the either side of the raised collar and attach to lateral anchors on the driver's helmet. This tether secures the driver's head and neck to the HANS device. The shoulder portion of the device extends from the back portion, over the shoulders, down the chest, and lies flat over the pectoral muscles. The shoulder portion looks like backpack straps that do not reconnect with the back portion under the armpits. The HANS device does not attach to the seat, the safety harness belts, or the driver's body. It attaches only to the driver's helmet and is secured under the safety belts.

The Hutchens is another early restraint device designed to restrict forward whipping of the head. But unlike the HANS, the Hutchens device is no longer approved by NASCAR. The device consists of a series of straps that connect across the chest and at the waist. The helmet is attached to the device with the help of an anchor on each side, much like the HANS device but placed slightly forward. In a crash, the straps of the Hutchens device tighten as the driver's head begins to move forward. It uses the driver's pelvic area as an anchor to prevent whipping of the head and neck. When first introduced, many drivers gravitated to the Hutchens device due to greater comfort and range of movement than the HANS device and lower price point. However, a string of injuries prompted testing which revealed the Hutchens failed to meet minimum standards. NASCAR has banned the use of the Hutchens device for all its series, making the HANS device the sport's only approved head-and-neck restraint system. NASCAR bans Hutchens device, Star News Online (Jan. 4, 2005), <https://www.starnewsonline.com/article/NC/20050104/News/605046979/WM/>.

Today, the HANS device is the most widely used and recognized head and neck restraint in motorsports. Motorsports Safety, Worcester Polytech. Inst. Injuries to the cervical spine and, most commonly, where the spine attaches to the skull are now rarer than ever. James Norman, The Medical Causes of Racing Deaths and Resulting Race Car Improvements, Complex (July 2, 2013), <https://www.complex.com/sports/2013/07/the-medical-causes-of-racing-deaths-with-examples-and-resulting-race-car-improvements/spinal-cord-injuries-base-of-the-skull-injuries>.

2. The '529 patent

Development of devices to protect drivers' heads and necks in collisions did not stand still with the invention of the HANS or Hutchens devices. Despite the HANS device's success in reducing basil skull fractures by restricting forward whipping of the head, its single-point

attachment strap provides little resistance to side-to-side movement caused by vehicle vibration. “[T]his vibration has been known to cause severe side-to-side oscillation of the driver's head, which can lead to loss of control of the vehicle or cause injury or even death by banging the driver's head against the interior of the vehicle.” ‘529 Patent col. 1 ll. 53–57. As such, there was a need in the art to improve head and neck restraint devices and tethering systems to protect drivers during a collision event, regardless of the direction of impact, and to improve drivers’ safety under a greater variety of conditions. Id. ll. 58–62.

On May 31, 2016, the United States Patent and Trademark Office (the “PTO”) issued the ‘529 patent, entitled “Multi-point Tethering System for Head and Neck Restraint Devices,” with Trevor P. Ashline named as the inventor. Simpson is the sole owner of the ‘529 patent. The ‘529 patent describes a system of tethers connecting the driver’s helmet to a support member worn by the driver. The system of tethers, in cooperation with the support member, function to control movement of the driver’s head during operation of the vehicle. Pl.’s Br. (#16) at 2. Unlike the HANS device, which employs a single tether looped around the back portion of the device, the ‘529 patent describes a system of rear, side and front tethers that attach the driver's helmet to the restraint device. The front tethers are also attached to the vehicle's seat belt assembly. The rear tether and one of the pair of side tethers are jointly attached to the helmet at a single attachment point on each side of the helmet. In conjunction with the support member, this tether system controls movement of the driver’s head and neck during operation of the vehicle. In doing so, the likelihood is reduced that a driver’s head will strike the interior of the vehicle and cause serious harm.

3. The Accused Device

Simpson asserts that Zamp has infringed one or more valid and subsisting claims of the ‘529 patent by making, using, importing, offering for sale, and selling the Accused Device to its distributors, intermediaries, customers, and/or end users. Simpson contends that the Accused Device has a pair of side tethers with each side tether configured for attachment to a respective side of a helmet and to a support member, that it has a rear tether that is attached to the support member and is configured for attachment to a helmet, and that the rear tether and one of the pair of side tethers are jointly attached to a helmet at a single attachment point on each respective side of the helmet. Simpson contends that the Accused Device falls within the scope of at least independent claim 1 of the ‘529 patent. Simpson further contends that Zamp has caused it substantial and irreparable harm.

Zamp does not deny using a tether-equipped device that attaches to a driver’s helmet to control the driver’s head and improve driver safety, but claims that the manufacture, use, and sale of such devices does not constitute infringement of the ‘529 patent. Further, Zamp argues that infringement of the ‘529 patent is impossible, as the ‘529 patent is invalid on several grounds, contending that the ‘529 patent does not meet conditions of patentability under 35 U.S.C. §§ 101, 102, 103, and 112. Finally, Zamp argues that Simpson is not entitled to relief due to unclean hands because Simpson sought to enforce a patent it knows to be invalid or not infringed.

IV. Legal Standard

Before the court can determine whether a patent has been infringed, the court must first determine the meaning and scope of patent claims that are asserted to be infringed. Once the claims have been properly construed, the court may compare the properly construed claims to the device accused of infringing. Markman, 52 F.3d at 976. Determining the meaning and scope of the patent

claims at issue is the purpose of claim construction. O2 Micro Int'l Ltd. V. Beyond Innovation Tech. Co., Ltd., 521 F.3d 1351, 1360 (Fed. Cir. 2008).

To start, “the claim construction analysis must begin and remain centered on the claim language itself.” Innova/Pure Water, Inc. v. Safari Water Filtration Sys., 381 F.3d 1111, 1116 (Fed. Cir. 2004). “It is a bedrock principle of patent law that the claims of a patent define the invention to which patentee is entitled the right to exclude.” Id. at 1115. This Court must “look to the words themselves . . . to define the scope of the patented invention.” Vitronics Corp. v. Conceptronic, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

The “words of a claim are generally given their ordinary and customary meaning.” Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quotations omitted). The “ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of invention, i.e., as of the effective filing date of the patent application.” Id. at 1313. A person of ordinary skill in the art “is deemed to read the words used in the patent documents with an understanding of their meaning in the field, and to have knowledge of any special meaning and usage in the field.” Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1477 (Fed. Cir. 1998). Where the ordinary meaning of a claim phrase or term is not apparent, a court may then act as would a person of ordinary skill in the art by looking to “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” Innova/Pure Water, 381 F.3d at 1116.

When engaging in claim construction, courts must follow a hierarchy of evidence, with the first being claim language, the second consisting of other intrinsic evidence (i.e., the specification, the remainder of the patent, and the prosecution history), and the third being extrinsic evidence

(i.e., evidence that is external to the patent and prosecution history, such as expert testimony or treatises). Advanced Cardiovascular Sys. v. Medtronic, 265 F.3d 1294, 1304 (Fed. Cir. 2001); N5 Techs. LLC v. Capital One N.A., 22 F. Supp. 3d 572, 578 (E.D. Va. 2013). This hierarchy of evidence does not, however, suggest that courts must consider and weigh all forms of evidence. Instead, if the intrinsic evidence provides a court with sufficient evidence to inform the claim construction, it need not descend and consider other extrinsic evidence or extrinsic evidence. Put another way, claim construction must focus first on the intrinsic evidence, and only if that evidence does not yield the answer should a court proceed to extrinsic evidence. Vitronics, 90 F.3d at 1583. Courts may, however, rely on extrinsic evidence to aid their understanding of the patent technology. Markman, 52 F.3d at 980 (“The court may, in its discretion, receive extrinsic evidence in order to aid the court in coming to a correct conclusion as to the true meaning of the language employed in the patent.”) (internal quotation marks omitted).

When a court considers intrinsic evidence, the specification¹ is “the single best guide to the meaning of a disputed term” and most often “dispositive.” Phillips, 415 F.3d at 1315. Courts must be cautious, however, to avoid limiting the scope of the claims by importing limitations of the specification into the scope of the claims. There is “a fine line between reading a claim in light of the specification, and reading a limitation into the claim from the specification.” Id. at 1323. Where a court construes “the claims based on the written description, the district court has committed one of the cardinal sins of patent law—reading a limitation from the written description into the claims.” SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1340 (Fed. Cir. 2001). Rather, “[c]laims must be read in view of the specification, of which they

¹ A patent document contains a “specification” describing the invention “in such full, clear, concise, and exact 1388 terms as to enable any person skilled in the art ... to make and use the same.” 35 U.S.C. § 112.

are a part.” Id. (citation and quotations omitted). Notably, the patentee need not “describe in the specification every conceivable and possible future embodiment of his invention.” CCS Fitness v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed. Cir. 2002) (internal citations omitted).

Importantly, the “patentee is free to be his own lexicographer” and to give claim terms a specific meaning, Markman, 52 F.3d at 980, which may differ from “their ordinary meaning.” Vitronics, 90 F.3d at 1582. When a patentee embarks on such a course, the patentee is obligated to “define the specific terms used to describe his or her invention . . . with reasonable clarity, deliberateness, and precision.” In re Paulsen, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Where a party points to a statement in the specification to support the contention that the patentee acted as his own lexicographer, that effort “must have sufficient clarity to put one reasonably skilled in the art on notice that the inventor intended to redefine the claim term.” Merck & Co. v. Teva Pharms. USA, 395 F.3d 1364, 1370 (Fed. Cir. 2005). Where it is contended that the patentee defined a claim term by implication, the duty of clarity also applies inasmuch as the implied redefinition must “be so clear that it equates to an explicit one.” Thorner v. Sony Computer Ent. Am., 669 F.3d 1362, 1368 (Fed. Cir. 2012).

Both sides presented expert testimony at the *Markman* hearing. Expert testimony “can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” Phillips, 415 F.3d at 1318. However, “conclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court.” Id. The court may disregard any expert testimony “that is

clearly at odds with . . . the written record of the patent.” Key Pharms. v. Hercon Labs. Corp., 161 F.3d 709, 716 (Fed. Cir. 1998).

V. Disputed Terms

In accordance with Local Patent Rule 4.3, the parties identified the following terms for construction: (1) a restraint device having a system of tethers, and a helmet cooperating with the tethers, for controlling a driver’s head during operation of a vehicle, comprising (preamble); (2) tether; (3) tethers; (4) a pair of side tethers; (5) at least one rear tether; (6) a support member; (7) jointly attached; (8) jointly attached to the helmet at a single attachment point on each respective side of the helmet; (9) adapted for being disposed between; (10) principally without being laterally angled; (11) engage; (12) in relation to the driver; (13) rigid; (14) angles upwards and forwards; (15) angles inward from the support member to the helmet; (16) an intermediate portion; (17) opposed end portion; (18) does not pass directly vertically above; and (19) not disposed directly vertically above. The Court will address each of these in turn.

1. A restraint device having a system of tethers, and a helmet cooperating with the tethers, for controlling a driver’s head during operation of a vehicle, comprising (preamble)

This phrase is the preamble of independent claims 1, 8, and 14, which Simpson contends should be construed as *a restraint device including a system of tethers for use with a driver’s helmet for controlling a driver’s head during operation of a vehicle*. Zamp does not seek an interpretation of the entire preamble but argues individual terms contained in the preamble require construction. Zamp also argues the preamble is limiting.

a. Construction of a Preamble Term

The court first addresses the issue of whether the preamble as a whole necessitates construction. Generally, the preamble does not limit the claims and, therefore, does not require construction. Am. Med. Sys., Inc. v. Biolitec, Inc., 618 F.3d 1354, 1358 (Fed. Cir. 2010). However, where “the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is ‘necessary to give life, meaning, and vitality’ to the claim, then the claim preamble should be construed as if in the balance of the claim.” Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305 (Fed. Cir. 1999) (quoting Kropa v. Robie, 187 F.2d 150, 152 (C.C.P.A. 1951)). “A claim’s preamble may limit the claim when the claim drafter uses the preamble to define the subject matter of the claim.” August Tech. Corp. v. Camtek, Ltd., 655 F.3d 1278, 1284 (Fed. Cir. 2011). However, when a patentee “defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation.” Novatek, Inc. v. Sollami Co., 559 F. App’x 1011, 1015 (Fed. Cir. 2014) (quoting Rowe v. Dror, 112 F.3d 473, 478 (Fed. Cir. 1997)). “Whether a preamble is treated as a limitation is determined by the facts of each case and upon an understanding of what the inventors actually invented and intended to encompass by the claims.” Id. (citing Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc., 289 F.3d 801, 808 (Fed. Cir. 2002)).

While no precise test exists to determine when a preamble limits claim scope, the Federal Circuit has held that “clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention.” Catalina Mktg. Int’l, 289 F.3d at 808. On the other hand, a preamble term is not limiting “when the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the

structure or steps of the claimed invention” or if the preamble is “reasonably susceptible to being construed to be merely duplicative of the limitations in the body of the claim (and was not clearly added to overcome a [prior art] rejection).” Am. Med. Sys., Inc. v. Biolitec, Inc., 618 F.3d 1354, 1358–59 (Fed. Cir. 2010) (internal quotations and citations omitted). The ultimate determination of whether preamble recitations are structural limitations or mere statements of purpose or use “can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” Corning Glass Works v. Sumitomo Elec. U.S.A., 868 F.2d 1251, 1257 (Fed. Cir. 1989).

The Court finds that construction is needed to clarify the extent of potential liability. It is clear from the wording of the preamble that the presence of a helmet is required. What is not clear, however, is whether the helmet is an essential *element* of the invention or merely essential to its *use*. The difference is a matter of direct versus indirect infringement. If the ‘529 patent does not require a helmet as an element of the invention, then defendant may be directly liable if it is found to have infringed the ‘529 patent. If a helmet is an element of the claimed invention, then defendant may be liable for, at most, indirect infringement because Zamp did not make and sell a helmet with the Accused Device.

Zamp argues a helmet is an essential element of the patented device, and that Simpson’s proposed construction essentially attempts to write-out the requirement that the helmet be part of the invention. Whether the helmet is part of the invention depends on whether the phrase *and a helmet cooperating with the tethers* describes the structure of the invention as having both tethers *and* a helmet; or, whether it simply states how the tethers should be used, i.e., *with a helmet*. If the term “helmet” was not also referenced in the body of claims 1, 8, and 14, the answer would be simple—that the preamble explains the device’s intended use, not structure. See Am. Med. Sys.,

Inc., 618 F.3d at 1358–59 (explaining a preamble term is not limiting where the body of the claim “describes a structurally complete invention” such that the preamble is merely duplicative and describes only function, not structure). But because “helmet” *is* referenced in the body of claims 1, 8, and 14 without language clearly indicating that it is *not* a structural component of the invention, defendant’s position that the body of the claims do not “describe a structurally complete invention” requires further evaluation.

Consequently, the Court must review the entire patent “to gain an understanding of what the inventors actually invented and intended to encompass by the claim” and determine whether the preamble recites a structural limitation or merely states the invention’s purpose or use. Corning Glass Works, 868 F.2d at 1257.

a. Claim Construction

Having considered each party’s position and reviewed the patent and related documents, the Court finds that a helmet is not an essential element of the patented invention, that the preamble merely states the invention’s intended purpose or use, and that the preamble is not limiting. In the context of the entire patent, it is apparent that the phrase “a restraint device including a system of tethers for use with a driver’s helmet for controlling a driver’s head during operation of a vehicle” is meant to describe the principal intended use of the invention—not to import a structural limitation on the device, or to exclude from the reach of the claims an assembly that does not include a helmet.

First and foremost, a helmet is not listed as a separate element following the transitional language “comprising” in claims 1, 8, and 14. The word “comprising” traditionally denotes that the claim encompasses the succeeding enumerated elements. In the ‘529 patent, a helmet is referenced in the description of *other* enumerated elements, such as side tethers and rear tether, as

a means of describing the structure and positioning of those elements. The claims do not teach of the helmet's size, construction, or assembly. Nor do the claims contain sufficient detail about the helmet to inform with reasonable certainty those skilled in the art that the helmet is within the scope of the invention. The claims must, therefore, be read in light of the specification and prosecution history.

Second, nothing in the specification or prosecution history states, or even suggests, the inventor intended to exclude use of a tethering system that was structurally identical to its claimed product but was produced and sold without a helmet. See generally '529 Patent; Pl.'s Br. Ex. B (#16-2) (excerpt of '529 patent prosecution history). In fact, the specification explicitly defines "helmet" and indicates the term includes any article wearable on the driver's head, including a skullcap *sold by a third party*. See '529 Patent col. 4 ll. 38–45 ("[A]n example of which is sold by Speedway Safety Equipment of Hueytown, Ala."). Clearly, the invention may be used with *any* helmet, not just those (if any) made and sold with the claimed invention.

Lastly, a helmet is not an essential element of prior art devices such as the Hans, Hutchens, or Hubbard. Like the '529 patent, those inventions require a helmet to *use* the restraint devices, but a helmet is not considered a *feature* or an *element* the invention itself. If a helmet was intended to be an element of the '529 patent, then surely patentee would have highlighted its presence as a feature that distinguishes it from prior art. However, the portion of the '529 patent distinguishing the restraint device from its predecessors makes no such distinction, which suggests patentee never intended a helmet to be an essential element of the claimed device. See Georgetown Rail Equip. Co. v. Holland L.P., 867 F.3d 1229, 1235–38 (Fed. Cir. 2017) (finding the preamble did not limit scope of claim where patentee did not distinguish claimed invention from prior art based on the

mounting of the device onto a vehicle and where the specification indicated the invention could be, but was not necessarily, mounted on a vehicle).

The intrinsic evidence supports the Court's finding that the '529 patent does *not* require a helmet and, as such, a helmet is *not* required for direct infringement. To clarify any confusion on this matter, the Court adopts Simpson's proposed construction of the preamble: *a restraint device including a system of tethers for use with a driver's helmet for controlling a driver's head during operation of a vehicle.*

2. Tether

Simpson contends the word "tether" does not require construction, as a definition is expressly given in the specification of the '529 patent. See '529 Patent col. 4, ll. 46–67–col. 5 ll. 1–3. Zamp argues for a definition of *a strap, belt, cord, chain, cable, or the like, with two terminal ends, including any hardware that is used to attach the tether to the helmet or the restraint device.* Zamp's primary support comes from the Phillips framework using the "ordinary and customary meaning" as the objective baseline for construing the word tether. But defendant's argument does not account for the fact that the phrase "ordinary and customary meaning" has a specialized meaning in patent law. It does not denote the ordinary meaning that a lay person would ascribe to the claim term. Nor does it signify abstract meaning or meaning in a vacuum. Rather, the "ordinary meaning" under Phillips is meaning that a person having ordinary skill in the art would attribute to the claim term *in the context of the entire patent*, including the specification and prosecution history. Phillips, 415 F.3d at 1313. In other words, it is inconsequential that Zamp or even the public at large believes that tethers must have two terminal ends if the patent's intrinsic evidence provide otherwise. And here, the '529 patent does, in fact, assign its own meaning to the term "tether."

Pursuant to this line of reasoning, the PTAB construed “tether” according to the definition assigned in the ‘529 patent. See Ex. A, Notice Supp. Auth. (#35) at 4. It explained “patentee acted as his own lexicographer by setting forth a specific definition for ‘tether’ in the ‘529 patent” and the inventor’s lexicography governs if the specification assigns a special definition that differs from the meaning it would otherwise possess. Id. The Court agrees with the PTAB’s determination and construes “tether” as that term is defined in the ‘529 patent:

The term “tether”, as used herein, includes, without limitation, any tether, webbing, strap, dashpot/dashpot containing a controllable rheological fluid such as that disclosed in U.S. Pat. No. 7,155,747 to Gregg S. Baker, belt, cord, chain, cable, rope, band, or the like, that is adapted to attach a restraint device to a helmet. Tether also includes the hardware and components (e.g. rings, loops and clips) thereon that allow the tether to be attached to a helmet, restraint device or seat belt assembly. Moreover, the term tether includes, without limitation, where the tether has one end attached to a helmet and the other end attached to the restraint device or seat belt assembly (an example of which is side tether 48 of FIG. 1); where the tether is one continuous length having terminal ends available for attaching to a helmet and an intermediate section attached to an embodiment of the restraint device (an example of which is rear tether 18 of FIG. 1); a network of webbing (not illustrated) that wraps over a helmet and which attaches to an embodiment of the restraint device; a tether that attaches a skull cap (not illustrated) to an embodiment of the restraint device; and the other suitable arrangements. It is to be understood that each tether may be comprised of more than one section and that the term tether may include only the tether section that attaches to the support member and/or the entire tethering system that joins the support member to the helmet.

‘529 Patent col. 4, ll. 46–67–col. 5 ll. 1–3. The intrinsic record cannot support a definition of “tether” that incorporates the “two terminal ends” limitation that Zamp suggests. While the ‘529 patent does state a tether *can* have “terminal ends,” it does not state a tether *must* have two terminal ends or suggest that having terminal ends is a dispositive feature. In fact, the definition gives several examples of what constitutes a tether and specifically states that a tether can be a “network of webbing,” or even just a section of a longer strap. Id. The specification of the ‘529 patent also states “[i]t is to be understood that each tether may be comprised of more than one section and that the term tether may include only the tether section that attaches to the support member and/or the

entire tethering system that joins the support member to the helmet.” Id. The term tether also encompasses any hardware or appendages used to facilitate attachment of a tether. Id.

Beyond that, the Description of the Preferred Embodiments section expressly provides that examples are not meant to be comprehensive or limiting:

This invention may, however, be embodied in many different forms and should not be considered as limited to the embodiments set forth herein. These exemplary embodiments are provided so that this disclosure will be both thorough and complete, and will fully convey the scope of the invention to those skilled in the art.

Id. col. 4 ll. 2–7. As such, the intrinsic record does not support a finding that a tether must always have “two terminal ends.” And the Court will not read a limitation into the claims where the specification does not require such limitation. In re Marosi, 710 F.2d 799, 802 (Fed. Cir. 1983) (holding claim limitations “are to be interpreted in light of the specification in giving them their ‘broadest reasonable interpretation.’”) (quoting In re Okuzawa, 537 F.2d 545, 548 (CCPA 1976)). To define it as such would unnecessarily restrict the term’s meaning and narrow the patent’s scope by inserting a limitation that does not appear in the claims. The Court, therefore, declines to construe the term “tether,” as that term is already expressly defined in the ‘529 patent.

3. *Tethers*

Simpson contends that the word “tethers” does not require construction because it is simply the plural form of “tether,” which is expressly defined in the specification. Zamp argues for a construction of *more than one strap, belt, cord, chain, cable, or the like, each of which has two terminal ends, and each of which includes any hardware that is used to attach each tether to the helmet or the restraint device*. The Court construes the term “tethers” as simply the plural form of “tether.”

Zamp argues it is important to distinguish the two terms because the patented invention requires the use of multiple tethers and the Accused Device does not have multiple tethers. However, as explained in the previous section, the specification precludes an interpretation that suggests every tether must be a separate and discrete strap. The patent’s definition of “tether” encompasses a variety of strap-like devices that attach the helmet to the support member worn by the driver; among those, tether straps and hardware. Thus, the plural term “tethers” could refer to multiple sections of a single tether strap. While, at the same time, the singular form of “tether” could refer to multiple straps interconnected via hardware. See ‘529 Patent col. 4 ll. 51–52 (“Tether also includes the hardware and components . . .”); col. 5 ll. 10–17 (discussing various types of hardware as means of attachment). Put otherwise, the term “tether” contemplates both singular and plural usage. Clearly, patentee anticipated the possibility that others may try to recreate its invention and try to avoid liability by simply using minor variations in the number of tether straps. The Court sees no reason to box patentee into a narrow construction that the ‘529 patent was written to avoid. The term “tethers” will not be construed differently than its singular counterpart, as the specification reveals that the patent holder intended the term to apply in both settings.

4. *A pair of side tethers*

Simpson contends the proper construction of “a pair of side tethers” is *a first side tether and a second side tether for attachment to a first side and a second side of the helmet, respectively*. It claims this construction comports with the plain and ordinary meaning of the term and does not violate the intrinsic record of the ‘529 patent.

Zamp argues for a construction of *two straps, belts, cords, chains, cables, or the like, each of which has two terminal ends, located on opposite sides of the helmet near the lateral centerlines*

of the helmet. It argues this definition is more specific as to what is meant by “side” and claims plaintiff’s construction is not sufficiently descriptive in that respect. Def.’s Resp. Br. (#17) at 14. Zamp disagrees with Simpson’s construction to the extent that it allows one strap to qualify as three separate tethers. Defendant again maintains that having “two terminal ends is “inherent to what a tether is.” See Markman Hr’g Tr. (#29) at 27.

Although the Court acknowledges that Simpson’s construction is less specific than Zamp’s as to what constitutes the side of the helmet, “[c]laims are often drafted using terminology that is not as precise or specific as it might be,” and the Court may not add unnecessary specificity “to facilitate a comparison between the claim and the accused product.” See PPG Indus. v. Guardian Indus. Corp., 156 F.3d 1351, 1355 (Fed. Cir. 1998) (holding the court must define the claim “with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction” and that “the task of determining whether the construed claim reads on the accused product is for the finder of fact”). The Court finds Simpson’s proposed construction sufficiently descriptive and appropriate given the intrinsic evidence.

Zamp cites for support the portion of the specification describing one preferred embodiment of the invention. See ‘529 Patent col. 8 ll. 7–11. However, the mere fact that a particular embodiment is taught (or even “preferred”) is generally not sufficient to justify limiting an otherwise broad claim scope to a particular embodiment taught. See, e.g., GE Lighting Solutions, LLC v. AgriLight, Inc., 750 F.3d 1304, 1310 (Fed. Cir. 2014) (reversing claim construction which limited scope of “ICD connector” to features of preferred embodiment); Azure Networks, LLC v. CSR PLC, 771 F.3d 1336, 1348 (Fed. Cir. 2014) (reversing claim construction that limited scope of “MAC address” to local address generated by a hub, as taught by embodiments); Williamson v. Citrix Online, LLC, 2015 U.S. App. LEXIS 10082, 2015 WL

3687459 at *4 (Fed. Cir. 2015) (reversing construction limited to the disclosed “pictorial map” in view of broader claim language and the lack of disclaimer); Laryngeal Mask Co. v. Ambu S/A, 618 F.3d 1367, 1371 (Fed. Cir. 2010) (addressing “a difficult case of claim construction,” finding that the term “backplate” is not limited to requiring a tube joint described in the specification; court was “mindful that the specification is the single best guide to the meaning of a disputed term” and that the “specification is replete with discussion of a tube joint,” but concluded that the term “backplate” was not so limited because only the preferred embodiment indicated that the tube joint “is part of the backplate”); Acumed LLC v. Stryker Corp., 483 F.3d 800, 807 (Fed. Cir. 2007) (finding that a claimed “transverse” hole in a bone nail was not limited to the particular “perpendicular” orientation shown in the specification); Agfa Corp. v. Creo Prods., Inc., 451 F.3d 1366, 1376–77 (Fed. Cir. 2006) (finding that a claimed “stack” of printing plates was not limited to the particular horizontal stack shown in the specification); Ormco Corp. v. Align Tech., Inc., 463 F.3d 1299, 1306–07 (Fed. Cir. 2006) (finding that a claimed “geometry” of orthodontic teeth was not limited to the geometries of orthodontics shown in the specification).

The mere fact that the disclosed embodiments of a patented invention have a certain feature does not, by itself, justify limiting the scope of the claims to what is disclosed in the specification. Even if every depicted embodiment of an invention shows a limitation, that alone is insufficient to overturn a claim’s plain meaning. See Unwired Planet, LLC v. Apple Inc., 829 F.3d 1353, 1359 (Fed. Cir. 2016) (holding that it is “not enough that the only embodiments, or all of the embodiments, contain a particular limitation to limit claims beyond their plain meaning”) (quotations and citations omitted). The fact that the preferred embodiment teaches a certain configuration is just one factor that must be weighed along with other factors such as the clarity of the claim language, the specification’s descriptions of the claimed invention, its statements

distinguishing the invention from the prior art, and the consistent and uniform usage of claim terms. Other contributing factors include the applicant's statements to the USPTO during patent prosecution and the doctrine of claim differentiation.

Defendant challenges the meaning of the phrase “a pair of side tethers” and Simpson’s proposed construction, arguing neither are clear as to what constitutes the side of the helmet. But review of the entire patent reveals this is not the case. While the claims are the most important thing to consider during claim construction, a patent applicant may still act as its own lexicographer by clearly setting forth a special definition of a claim term in the specification that differs from the plain and ordinary meaning it would otherwise possess. “[T]he inventor’s intention, as expressed in the specification, is regarded as dispositive.” Phillips, 415 F.3d at 1316; see In re Paulsen, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (holding an inventor may define specific terms used to describe invention, but must do so “with reasonable clarity, deliberateness, and precision” and, if done, must “‘set out his uncommon definition in some manner within the patent disclosure’ so as to give one of ordinary skill in the art notice of the change” in meaning) (quoting Intellicall, Inc. v. Phonometrics, Inc., 952 F.2d 1384, 1387–88 (Fed. Cir. 1992)). Here, “a pair of side tethers” is not defined in the ‘529 patent. But as noted above, “tether(s)” is clearly and reasonably defined in the specification, and that definition applies to phrases that utilize the term unless the inventor has noted otherwise. In other words, “a pair of side tethers” must be construed in light of the specification’s definition of “tether.” Zamp’s proposed construction contradicts this definition.

Furthermore, a person of ordinary skill in the art is deemed to read the claim terms not only in the context of the particular claims in which the disputed terms appear, but also in the context of the entire patent. Phillips, 415 F.3d at 1312–13. While the ‘529 patent does not expressly describe the location of the pair of side tethers on the device, there are references to side tethers

throughout the patent which, when read together, adequately describe their placement and positioning. See *infra* Section V.9 (construing “principally without being laterally angled”). Zamp’s construction attempts to incorporate limiting language that is not supported by intrinsic evidence (e.g., “terminal ends” and “lateral centerlines”). Simpson proposed construction comports with the plain and ordinary meaning of the term in the context of the entire patent and does not violate the intrinsic record of the ‘529 patent. The Court construes “a pair of side tethers” as *a first side tether and a second side tether for attachment to a first side and a second side of the helmet, respectively.*

5. At least one rear tether

Both parties ask the Court to construe the term “at least one rear tether,” which appears in independent claims 1 and 14 of the ‘529 patent. Simpson contends that the proper construction is *a single rear tether having portions for attaching to a helmet or multiple rear tethers each having a portion for attaching to a helmet.* Zamp argues for a construction of *at least one additional strap, belt, cord, chain, cable, or the like, which is not one of the pair of side tethers, with two terminal ends, located at the rear of the helmet.*

Both parties claim their respective constructions conform to the same portion of the specification, which states:

A rear tether 18 is provided for attaching the restraint device 10 to the helmet 20. For example and as illustrated in FIGS. 1 and 2, attachment there-between may be accomplished by a single tether 18 having an intermediate portion 18a attached to the support member 12 via mechanical clips 38 and opposed end portions 18b equipped with quick-release clips 40 for being attached to the helmet 20. Although the single tether 18 may be allowed to slidably move relative to the mechanical clips 38, it is preferred that the tether 18 is affixed by the clips 38 to the support member 12. In another example (not illustrated), the single tether 18 may be replaced with two separate tethers, each affixed at one end to the support member 12 by a mechanical clip (e.g. 38) or the like and adapted at the opposed end for being attached to the helmet 20. That is, the two tethers would be positioned as are tether end portions 18b. In still another example (not illustrated), a single tether

may extend from the support member 12 and attach to only one location at the back of the helmet 20. In each of the above examples, a webbing tie, or other means, may be provided on the tether for length adjustment as necessary.

‘529 Patent col. 8 ll. 58–67–col. 9 ll. 1–11. Simpson first challenges Zamp’s proffered “two terminal ends” limitation as unnecessary and not supported by the intrinsic evidence. Nowhere in the cited portion of the specification does it state or suggest that the rear tether must have a distinct beginning and end point, or that a single strap cannot be used as both the rear tether and the side tethers. And Zamp cites no intrinsic evidence to support its position that the side tethers and the rear tethers must necessarily be separate, discrete straps rather than different portions of the same strap.

Simpson’s position, on the other hand, is supported by the ‘529 patent’s description of a “rear tether,” as well as the specification’s definition of “tether.” The specification states “tether” may be used to refer to sections of a larger tether that attach to the helmet and support member. See id. col. 4, l. 67–col. 5 l. 1 (“the term tether may include only the tether section”). It also expressly contemplates that a “tether” (or “tethers”) can be a portion of a longer tether and can even include the hardware. The intrinsic record does not support a definition that requires the tether to have “terminal ends.” The ‘529 patent allows the rear tether and the pair of side tethers to be embodied as different portions of one continuous strap for interconnecting the support member to the helmet at the attachment point on each side of the helmet. To require that the rear tether have “two terminal ends” would prohibit such an embodiment, would unnecessarily restrict the term’s meaning, and would narrow the ‘529 patent’s scope.

While the patent’s definition of “tether” also states a rear tether *may* be “one continuous length having terminal ends available for attaching to a helmet and an intermediate section attached to an embodiment of the restraint device,” this description was meant to be exemplary and does

not require that a rear tether have such features. Even in cases where the specification describes very specific embodiments of the invention, courts have repeatedly warned against confining the claims to those embodiments. Phillips, 415 F.3d at 1323; see, e.g., Nazomi Communications, Inc. v. ARM Holdings, PLC, 403 F.3d 1364, 1369 (Fed. Cir. 2005) (claims may embrace “different subject matter than is illustrated in the specific embodiments in the specification”); Liebel–Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906–08 (Fed. Cir. 2004); Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1327 (Fed. Cir. 2002); SRI Int’l v. Matsushita Elec. Corp. of Am., 775 F.2d 1107, 1121 (Fed. Cir. 1985). Particularly, courts have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment. Phillips, 415 F.3d at 1323 (citing Gemstar–TV Guide Int’l, Inc. v. Int’l Trade Comm’n, 383 F.3d 1352, 1366 (Fed. Cir. 2004)). As such, the Court will not limit the invention to an exemplary description and finds the ‘529 patent’s definition does not require that the rear tether have “two terminal ends.”

Simpson also challenges Zamp’s proposed requirement that at least one rear tether be located “at the rear of the helmet.” The Court agrees with Simpson’s position and believes mandating a specific location in this context would cause more confusion than it would avert. The ‘529 patent does not assign a single, specific location to the rear tether(s); however, it describes how it/they attach to the support member and to the helmet, and it gives the location of the support member in relation to the driver. Beyond that, the ‘529 patent explains *why* it does not give the rear tether’s precise location: “The specific location of tether attachment to the support member 12 and helmet 20, and its path angle there-between, is based upon several factors, for example the number of tethers being used, the type of vehicle and seat assembly.” ‘529 Patent col. 9 ll. 12–13. The ‘519 patent provides adequate information from which a person skilled in the art would be

able to deduce the rear tether's location depending on variables such as number of tethers used and type of vehicle and seat belt assembly. The Court declines to construe the term in a way that will or could unnecessarily limit the claims. Plaintiff's proposed construction is consistent with the intrinsic evidence and is appropriate in the context of the entire patent. The Court adopts Simpson's construction accordingly.

6. A support member

Simpson contends the proper construction of "a support member," which appears in all of the independent claims 1, 18, and 14, is *as used in the independent claims, the support member is the structure of the restraint device (other than a system of straps) that is attachable to the driver's helmet via the claimed system of tethers*. Zamp initially argued for a construction of *a single piece device having back and shoulder portion respectively located along the back (covering at least one of the thoracic vertebrae or terminating below the top of the driver's shoulder blades, and at least partially over the shoulder of the wearer*. However, Zamp has since acknowledged that one embodiment in the '529 patent is not covered by the definition above and now concedes that Simpson's proposed definition is acceptable. See Def.'s Resp. Br. (#17) at 16. Given the parties have agreed on the meaning of this claim term, the Court construes "a support member" as *the structure of the restraint device (other than a system of straps) that is attachable to the driver's helmet via the claimed system of tethers*.

7. Jointly attached

Simpson argues that "jointly attached" in claims 1, 8, and 14 does not require construction because the term has a plain and customary meaning. It instead contends that it is more appropriate to construe the entire phrase, i.e., "jointly attached to the helmet at a single attachment point on each respective side of the helmet," of which the two words in question are only a part. This phrase

is discussed in the next section. Zamp argues “jointly attached” does require construction and that the larger phrase containing the term need not be construed. Zamp cites extrinsic evidence in the form of a dictionary definition to construe “jointly attached” as meaning *the terminal ends of two or more tethers attached at a single point*. Joint Statement Ex. B (#13). Notably, Zamp’s cited dictionary definition (“a place where two things or parts are joined”) does not require that the two things being joined attach to one another at their “terminal ends.” Nor does the dictionary definition necessarily require the joinder of two separate, discrete objects.² In any event, consistent with its previous findings, the Court rejects the “two terminal ends” requirement as inconsistent with the patent’s definition of “tether” and “attach.”

Zamp’s dictionary definition attempts to amalgamate two similar but separate terms. The term-in-question includes the word “jointly” (an adverb), not “joint” (a noun). Zamp’s cites the dictionary definition of the noun “joint” in support of its construction. The distinction is minor and often inconsequential in everyday conversation, but this grammatical nuance matters in the context of patent litigation. See, e.g., *Imagine That Int’l, Inc. v. CS TECH US*, No. 15CV1558, 2016 WL 1324231, at *4 (S.D. Cal. Apr. 4, 2016) (“[T]he Court finds that it is plain that the word ‘stay’ is used as a noun and not a verb in the claim.”); *Johnson Outdoors Inc. v. Navico, Inc.*, No. 2:10CV67, 2011 WL 1496740, at *8 (M.D. Ala. Apr. 20, 2011) (“Aside from the grammatical differences between nouns and adjectives, the noun ‘detail’ and the adjective ‘detailed’ ascribe different meanings to the ideas they are trying to convey.”).

² “Joint” can also mean a portion of *flexible* material that forms the hinge of the same, unbroken object. For example, “the hinge a book cover” is a joint, as is the “part of a stem of a plant from which a leaf or branch grows.” <https://en.oxforddictionaries.com/definition/joint>; see also <https://www.merriam-webster.com/dictionary/jointly>. In other words, “joint” can refer to a position between two portions of the same, flexible object.

The adverb “jointly” is used in the patent to describe the way in which something is done—specifically, the way the tethers attach at the helmet. Unlike the noun “joint,” the adverb “jointly” does not refer to a *place* at which two things or parts are joined. Nor is it used to name or refer to a specific *thing* or *article* on the invention. “Jointly” is often used synonymously with words like *together*, *unitedly*, and *as one*. In other words, “joint” and “jointly” ascribe different meanings to the ideas they are trying to convey. See Johnson Outdoors Inc., 2011 WL 1496740, at *8.

The Court finds that the plain and ordinary meaning of “jointly” cannot be read to incorporate the meaning that Zamp fuses together from multiple extrinsic sources. While Zamp has pointed to an extrinsic dictionary definition that refers to the coming together of two things, the Court cannot ignore the fact that the specification does not support such a construction; namely, in its definition of “attach.” “Attached” is expressly defined in the ‘529 patent. Each use of the word “jointly” in the ‘519 patent is in the context of attachment and is described such that the ordinary meaning is readily apparent to one of ordinary skill in the art. Zamp makes no effort to show how its proposed definition is consistent with the patent’s express definition of “attached.” Pl.’s Reply (#18) at 3. Therefore, the Court declines to construe the term “jointly attached.” See U.S. Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed. Cir. 1997) (holding that claim construction “is not an obligatory exercise in redundancy”).

8. *Jointly attached to the helmet at a single attachment point on each respective side of the helmet*

Simpson proposes the entire phrase, “jointly attached to the helmet at a single attachment point on each respective side of the helmet,” should be construed as *when attached to the helmet, the rear and side tethers attach at a first common attachment location on a first side of the helmet and at a second common attachment location on a second side of the helmet, respectively*. Zamp

does not believe the entire phrase requires construction and asks the Court to construe only “jointly attached.” The Court agrees with Simpson that it is more appropriate to construe the entire phrase rather than pull the term “jointly attached” out of context.

Simpson’s proposed construction is consistent with the prosecution history of the ‘529 patent, which is also part of the intrinsic evidence. The prosecution history reveals several claims were rejected as being unpatentable over the Hubbard patent. See Pl.’s Br. Ex. B (#16-2) at 11 (excerpt of ‘529 patent prosecution history). The Hubbard patent discloses rear and side tethers having separate attachment points on the rear and the sides of the helmet: “that is, the rear tether being attached to the rear of a helmet and side tether being attached to the sides of the helmet.” Id. The ‘529 patent, on the other hand, discloses side tethers and a rear tether being “jointly attached” to respective sides of the helmet. Id. To further distinguish the two patents, patentee amended independent claims 1, 9, and 15 to include the limitation that the rear tether and one of the pair of side tethers are “jointly attached” to the helmet at a single attachment point on each respective side of the helmet. The patent examiner thereafter withdrew his rejections, which indicates that he or she had determined that the amended language sufficiently distinguished the two patents from one another and adequately described the invention. The Court agrees.

Having found “jointly attached” is an adequate description, it would be within the Court’s discretion to find that the phrase-in-question need not be construed because a person having ordinary skill in the art would understand its meaning. However, keeping in mind that the purpose of claim construction is to instruct the jury on what the claim means from the perspective of a person having ordinary skill in the art, the Court adopts Simpson’s proposed construction of the entire phrase. See Patent Case Management Judicial Guide § 5.2.3.1.2 (3d ed. 2016) [hereinafter Judicial Guide]. Simpson’s proposed construction meaningfully adds to the definition of the claim

term because it describes the phrase in more precise terms, in a way that is consistent with the entire patent, without narrowing or expanding the claim scope. It clarifies that there are two different common attachment locations, one on each side of the driver's helmet, and thereby reduces the likelihood of juror confusion that could be caused by the phrase "single attachment point." As such, the Court construes the entire phrase as *when attached to the helmet, the rear and side tethers attach at a first common attachment location on a first side of the helmet and at a second common attachment location on a second side of the helmet, respectively.*

9. Adapted for being disposed between

Simpson contends that "adapted for being disposed between" does not require construction, as its ordinary and customary meaning is *the side tethers are located within the side-to-side area of the restraint device bounded by the shoulder belts when the driver using the restraint device is seated.* Zamp initially argued construction is necessary and that the proper construction is *capable of having no portion of a side tether passing directly above any portion of a shoulder belt when the device is connected to a helmet and the wearer is sitting in an upright seated position and wearing a seat belt with shoulder belts.* However, in the Claim Construction Chart submitted per P.R. 4.5(E) and during the Markman hearing, Zamp conceded that this term does not require construction by the Court. Since the parties have agreed that construction is not necessary, the Court will not construe this claim term.

10. Principally without being laterally angled

Both parties ask the Court to construe the term "principally without being laterally angled," which appears in independent claim 14. This phrase is used to describe the orientation and direction of the claimed side tethers. Simpson contends the proper construction is *extending generally vertically*, citing for support the specification's description of the side tethers in the

preferred embodiment: “the side tethers 19 extend generally vertically downward from the helmet 20.” Pl.’s Br. (#16) at 16 (citing ‘529 Patent col. 8 ll. 26–27 and FIGS. 1, 5, 8, 10, and 11). Zamp argues for a construction of *extending from the support member to the helmet while angling inward towards the driver while the driver is in an upright seated position by between ten and fifteen degrees*.

Zamp claims its proposed construction is the closest description of the orientation and direction of the side tethers based on the drawings and column 9 of the specification. It maintains that, because the term-in-question is used only in claim 14 and appears nowhere elsewhere in the ‘529 patent, the specification is not helpful in construing the term. Zamp further argues plaintiff’s proposed definition of *extending generally vertically* is too vague and not helpful. See Def.’s Resp. Br. (#17) at 19 (“[I]t is clear from the drawings and column 9 of the specification that if the clause means anything, then there must be some more precise term than that it extends generally vertically.”). For the reasons given below, the Court finds for Simpson.

a. Terms of Degree Are Sufficiently Definite

The term “principally without being laterally angled” contains two terms of degree: principally and laterally. When the court construes a term of degree, a key question is whether the intrinsic evidence provides “some standard for measuring that degree.” Exxon Research & Eng’g Co. v. United States, 265 F.3d 1371, 1381 (Fed. Cir. 2001) (“When a word of degree is used the district court must determine whether the patent’s specification provides some standard for measuring that degree.”). Often there may be no such standard, and the Federal Circuit has frequently ruled that it would be error to impose a more exact construction on terms of degree. See Playtex Prods., Inc. v. Procter & Gamble Co., 400 F.3d 901, 907 (Fed. Cir. 2005) (“But the definition of ‘substantially flattened surfaces’ adopted by the district court introduces a numerical

tolerance to the flatness of the gripping area surfaces of the claimed applicator[, which] contradicts the recent precedent of this court, interpreting such terms of degree.”); Cordis Corp. v. Medtronic AVE, Inc., 339 F.3d 1352, 1361 (Fed. Cir. 2003) (refusing to impose a precise numeric constraint on the term “substantially uniform thickness”); Anchor Wall Sys. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298, 1311 (Fed. Cir. 2003) (holding that “the phrase ‘generally parallel’ envisions some amount of deviation from exactly parallel,” and that “words of approximation, such as ‘generally’ and ‘substantially,’ are descriptive terms commonly used in patent claims to avoid a strict numerical boundary to the specified parameter”)); see also PPG Indus., 156 F.3d at 1355 (“Claims are often drafted using terminology that is not as precise or specific as it might be. . . . That does not mean, however, that a court, under the rubric of claim construction, may give a claim whatever additional precision or specificity is necessary to facilitate a comparison between the claim and the accused product.”); Renishaw PLC v. Marposs Societa’ per Azioni, 158 F.3d 1243, 1249 (Fed. Cir. 1998) (“Thus, when a claim term is expressed in general descriptive words, we will not ordinarily limit the term to a numerical range that may appear in the written description or in other claims.”).

Where the patent provides “some standard for measuring that degree,” the Court may look to intrinsic evidence to give meaning to a term of degree if doing so would be helpful to the jury. See Judicial Guide § 5.2.3.1.5.2.3 (3d ed. 2016) (“Terms of degree frequently do not warrant a more precise construction, and it is often appropriate to pass imprecise terms to the jury in its role as fact-finder. However, the intrinsic evidence may suggest an appropriate standard for providing a more concrete measure of claim scope. The right approach is the one that recognizes the tension between the goals of clarifying claim scope and of avoiding imposing extra limitations on claim

language, and then carefully assesses the objective measures that can give standards for the claim terms.”).

b. Simpson’s Proposed Construction is Appropriate

Simpson’s proposed construction describes the orientation and location of the side tethers in a manner supported by intrinsic evidence. Although admittedly imprecise, imprecision does not always invalidate a claim term. Plaintiff’s construction is sufficiently definite because the patent provides “some standard for measuring that degree” of angle of the claimed side tethers. Exxon Research & Eng’g Co., 265 F.3d at 1381; see also Anchor Wall Sys., 340 F.3d at 1311 (holding “words of approximation, such as ‘generally’ and ‘substantially,’ are descriptive terms commonly used in patent claims to avoid a strict numerical boundary to the specified parameter”).

The ‘529 patent covers several embodiments of the claimed invention and includes features which are codependent on one another, making it difficult to ascribe the precise location and orientation of such features. Although the patent does not describe the precise location or position of the side tethers, it does describe the location and position of other features that influence the placement of the side tethers. For example, rear and side tethers are “jointly attached” at the same point on the helmet. The orientation and location of the side tethers are, therefore, influenced by the limits and requirements of rear tethers and attachments. See ‘529 Patent col. 9 ll. 12–15. (“The specific location of rear tether attachment to the support member 12 and helmet 20, and its path angle there-between, is based upon several factors, for example the number of tethers being used, the type of vehicle and seat assembly.”). The ‘529 patent also indicates where side tethers may *not* be placed on the invention. See, e.g., id. col. 12 l. 67 (indicating a side tether “does not pass directly vertically above” the shoulder belts).

There is nothing in the ‘529 patent specification or prosecution history that warrants assigning numerical bounds to the scope of the claim term. Nor are there any functional properties required by the context of the claim that suggest the Court should assign a precise range of degrees of side tethers that are “principally without being laterally angled.” Cf. Gemtron Corp. v. Saint-Gobain Corp., 572 F.3d 1371, 1378 (Fed. Cir. 2009) (“[E]very time the structure of the ‘relatively resilient’ edge portions is mentioned in the specification, it is in the context of a discussion of how that structure functions while the shelf is assembled.”). The Court will not limit the claim’s scope by assigning numerical bounds to the scope of the claim or inserting unnecessary language not supported by the specification or other intrinsic evidence. See PPG Indus., 156 F.3d at 1355 (finding a court may not give a claim whatever additional precision or specificity is necessary to facilitate a comparison between the claim and the accused product under the rubric of claim construction); Renishaw PLC., 158 F.3d at 1249 (Fed. Cir. 1998) (“Thus, when a claim term is expressed in general descriptive words, we will not ordinarily limit the term to a numerical range that may appear in the written description or in other claims.”).

Simpson’s proposed construction gives meaning to a term of degree in a way that would be helpful to the jury. The specification states that side tethers “extend generally vertically downward from the helmet.” ‘529 Patent col. 8 ll. 26–27. The claim term “principally without being laterally angled” also describes the orientation of the side tethers. Id. col. 12 ll. 52–53. One skilled in the art would, therefore, understand that “principally without being laterally angled” means *extending generally vertically*. See Phillips, 415 F. 3d at 1313 (“[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.”) This construction “recognizes the tension between the goals of clarifying claim

scope and of avoiding imposing extra limitations on claim language, and then carefully assesses the objective measures that can give standards for the claim terms.” Judicial Guide § 5.2.3.1.5.2.3 (3d ed. 2016).

c. Zamp’s Construction is Not Supported by Intrinsic Evidence

Zamp’s proposed construction, on the other hand, is not supported by intrinsic evidence. Defendant cites for support column 9 of the specification: “It is also preferred to angle β the left and right tether end portions 18b inwards from the support member 12 to the helmet 20 . . . Not to be construed as limiting, a preferred inward angle β is in the range of 10–15 degrees.” ‘529 Patent col. 9 ll. 31–33 (referring to FIGS. 1 and 2); see Def.’s Resp. Br. (#17) at 18 (citing lines 31 through 44).³ However, the “angle β ” and its preferred range of 10 to 15 degrees “is discussing rear tether 18, **not side tethers 19.**” Pl.’s Br. (#16) at 16 (emphasis in original).

According to the specification, the right and left tether portions mentioned in the provision cited by Zamp are actually “opposed end portions 18b” of the same *rear* tether—not the right and left *side* tethers to which the term “principally without being laterally angled” refers. See ‘529 Patent col. 8 ll. 59–64. Likewise, Zamp’s references to Figures 2 and 12 do not support its proposed construction because these figures illustrate the inward angle of *rear* tether angle β . Figures 2 and 12 show a rear view of a rear tether at an inward angle (β) on a horizontal z-axis and vertical y-axis. Figure 1 shows a lateral view of that same rear tether at an upwards and forwards angle (δ) on a horizontal x-axis and the same vertical y-axis. Ultimately, angle β and angle δ both

3 “. . . By angling the left and right tether portions 18b inwards, the tether portions 18b are in position to quickly resist forces that occur during a side or angular frontal impact and control the driver's head and neck. That is, in the event of an impact, the angle 13 of the tethers portions 18b may cause slack to be taken-up rapidly and provides force paths that more directly oppose the deceleration forces. Not to be construed as limiting, a preferred inward angle 13 is in the range of 10-15 degrees. As it will be appreciated by those skilled in the art, limitation due to the seat assembly and headrest may require that the rear tethers portions 18b are directly forward at no angle, angled outward, or any angle there-between.”

measure the degree of the rear tether extending from the support member to the helmet, but they do so from different angles (and at different dimensions), depending on the perspective of the viewer. So, contrary to defendant's assertions, angle β represents the inward angle of the *rear* tether from the rear perspective—it does *not* measure the angle of a *side* tether. Because the claim term “principally without being laterally angled” describes the orientation and direction of the side tethers, and because Zamp's proposed construction relies on provisions referring to the angle of a rear tether only, the Court rejects Zamp's proposed construction.

11. Engage

Simpson contends that the term “engage” does not require construction, as it has an ordinary and customary meaning that is readily understandable. Unlike what it has done for every other challenged claim term, however, Simpson does not attempt to explain what the ordinary and customary meaning of “engage” is within the context of the '529 patent. Simpson argues attachment is a form of engagement but does not cite to any intrinsic evidence showing the two may coexist within the '529 patent—e.g., that something described as being “engaged” can also be “attached” in the same respect. Nor does Simpson argue that Zamp's proposed construction is inconsistent with the instrument as a whole.

Zamp argues construction is necessary and that the proper construction of “engaged” is *in communication with another article without being coupled together*. Essentially, Zamp claims “engaged” and “attached” are mutually exclusive. For support, it cites the specification's definition of “attached,” which states the term “does not include where an article is engaged against another article without being couple together.” *Id.* col. 5 ll. 17–23 (“For example, in FIG. 1 the vehicle's shoulder belts 110 are illustrated as being positioned on and **engaged** against shoulder portions 16 of the support member 14 but without being attached together.”) (emphasis added).

“Engage” is not defined in the ‘529 patent but appears in claim 12, which states: “The restraint device of claim 8, wherein the support member is configured to be worn on the driver and to position the rear tether and the pair of side tethers in relation to the driver and to **engage** the shoulder belts of the seat belt assembly.” *Id.* col. 12 cl. 12 (emphasis added). The meaning of “engage” is not immediately apparent based on the claim language itself. Thus, the Court must analyze intrinsic evidence to apply an appropriate interpretation to the lay term-in-question.

Aside from its appearance in the specification’s definition and description of what is not meant by “attached,” a variation of “engage” is used in two other places in the ‘529 patent. First, the term appears in the specification’s description of the support member:

In the preferred embodiment, the first section 28 terminates at the back of the driver's neck, below the driver's helmet 20, so that the helmet 20 **engages** the vehicle's seat assembly headrest and not the support member 12. This preferred upper height limit to the support member 12 advantageously allows for the driver's helmet 20 to **engage** against the seat assembly headrest upon rebounding during a collision event and makes it easier to egress the vehicle since there is less exposed material to catch on the window frame.

‘529 Patent col. 6 ll. 28–36 (emphasis added). Second, a variation of the term is used to describe the back and shoulder portions of an embodiment of the support member: “Referring to FIG. 1, the channels 32 are sized to accommodate shoulder belts 110 of the vehicle seat belt assembly and provide an **engagement** surface against which the shoulder belts 110 react during a collision event.” *Id.* ll. 65–67–col. 7, ll. 1–2 (emphasis added).

In each of these instances, the term “engage” is used to describe a communication that is akin to something more like *touch* or *slide* than “attach.” In fact, the only “engagements” described in the patent involve articles that are in communication with one another but are not actually coupled together. For example, substituting terminology, the first section of the support member is described as ending just below the helmet such that the helmet *touches* the headrest but not the

support member. Likewise, it appears that the channels on the shoulder portions of the device provide a *sliding* surface against which the shoulder belts react during a collision. There is nothing to suggest “engage” encompasses or could be used interchangeably with “attach” within the context of the patent.

Zamp’s proposed construction is consistent with the specification’s descriptions that use the word “engage,” and neither claim differentiation nor prosecution history require a different construction. Courts are cautioned against reading limitations from the specification into the claims and, instead, must interpret claim language in light of the specification. Beyond that, the point of claim construction is to instruct the jury on what the claim means from the perspective of a person having ordinary skill in the art. Here, a person having ordinary skill in the art would see that the term “attached” excludes articles that are “engaged” but not coupled together; that every other reference to “engage” concerns articles that are not coupled together; and that “engage,” as that term is used in the ‘529 patent, cannot refer to articles that are “attached.” To ensure jury clarity, the Court construes the term “engaged” as *in communication with another article without being coupled together*.

12. In relation to the driver

The phrase “in relation to the driver” is used in claims 2, 5, 7, 9, 12, and 15 to describe the position of the claimed side tethers. Simpson contends the claim term does not require construction, as its ordinary and customary meaning means *in relation to a driver when that driver is wearing the support member*. Zamp contends the phrase is indefinite and argues construction is necessary. It proposes a definition of *in a fixed position relative to the driver*. Zamp claims this definition is “simpler and provides needed specificity to the definition, however, neither definition provides the required specificity necessary to inform one skilled in the art.” Def.’s Resp. Br. (#17)

at 20. Zamp cites to no provision in the patent supporting the proposition that the position must be “fixed.” Nor does it explain why “relative to” is different from or preferable to “in relation to.” Therefore, the Court declines to construe this claim term..

The Court must define the claim “with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction.” See PPG Indus., 156 F.3d at 1355. The Court may not add unnecessary specificity “to facilitate a comparison between the claim and the accused product,” as the jury determines “whether the construed claim reads on the accused product.” Id.

One skilled in the art would understand that, within the context of the patent, the phrase “in relation to the driver” refers to a driver wearing the patented device. On the other hand, a skilled artisan would not believe that the described position must necessarily be “fixed” because nothing in the specification or prosecution history supports this construction. To the contrary, the rear and side tethers whose positions are described as being “in relation to the driver” attach to the support member and helmet, and “attach” includes “when components are slidably coupled together **without being affixed** at a specific location.” ‘529 Patent col. 5 ll. 10–11 (emphasis added). Zamp’s construction does not comport with the specification’s definition of “attached” and would limit the claim terms by preventing the rear and side tethers from being slidably attached.

Zamp’s attempt to insert the language “in a fixed position” would improperly narrow the claim by imposing a limitation not required by the specification. Beyond that, attempting to construe this claim would add little in the way of clarity. Neither the intrinsic record nor extrinsic evidence meaningfully add to the definition of the term. As such, the Court finds the claim term

“in relation to the driver” does not require construction, as its ordinary and customary meaning is *in relation to a driver when that driver is wearing the support member*.

13. Rigid

Both parties ask the Court to construe the term “rigid” in dependent claims 4, 11, and 17. Simpson contends the claim term should be construed to mean *principally rigid with no more than a minor amount of flexibility*. Zamp contends that the claim term “rigid” should be construed to mean *no significant deformation under stresses that would occur in a vehicular crash*.

The Court adopts Simpson’s interpretation, which is consistent with the intrinsic record of the ‘529 patent. The rigidity of the support member is described in the specification, which states: “[i]t is to be understood the term rigid means principally rigid and is inclusive of a minor amount of flexibility as the support member may exhibit some resiliency due to significant loads being placed thereon.” ‘529 Patent col. 7 ll. 21–24. Moreover, during prosecution of the ‘529 patent, patentee successfully argued the term “rigid” should be interpreted based on the above standard provided in the specification. See Pl.’s Br. Ex. B (#16-2) at 10–11 (excerpt of ‘529 patent prosecution history). Simpson’s proposed construction closely tracks the definition of “rigid” from the specification.

Zamp contends that the claim term “rigid” should be construed to mean *no significant deformation under stresses that would occur in a vehicular crash*. Interestingly, defendant cites as support the same provision in the specification describing the rigidity of the support member, which does not use the words “deformation” or “crash.” See Joint Claim Construction and Pre-Hearing Statement Ex. B (#13) at 6 [hereinafter “Joint Statement”] (citing ‘629 Patent col. 7 ll. 19–26). Zamp also cites extrinsic evidence in the form of a Merriam-Webster dictionary definition, which also does not use the words “deformation” or “crash.” Id. (citing Rigid, Merriam-

Webster (last updated Jan. 6, 2019), <https://www.merriam-webster.com/dictionary/rigid>). Zamp has offered no further support for its proposed construction. See Def.’s Resp. Br. (#17) at 21 (stating only that “Zamp’s definition, while still not specific, provides more guidance than Simpson’s proposed definition” and that “Simpson’s definition does not provide an acceptable level of specificity,” without citing the dictionary definition it referenced in the Joint Statement or any other source of evidence for support). Zamp also challenges Simpson’s construction as indefinite because it “relies on the specification to improperly broaden the definition from ‘rigid’ to ‘principally rigid.’” Id. However, the specification expressly defines the term “rigid” using the phrase “principally rigid,” and the “patentee is free to be his own lexicographer” and to give claim terms a specific meaning. Markman, 52 F.3d at 980; see, e.g., In re Marosi, 710 F.2d at 802 (“[C]laims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification in giving them their ‘broadest reasonable interpretation.’”) (quoting In re Okuzawa, 537 F.2d at 548).

As to its indefiniteness, the word “principally” is a term of degree. Terms of degree typically pose definiteness concerns because they are inherently vague and, while these terms have common meaning, they arguably take on a technical meaning within the context of the patent. However, there is no blanket prohibition on terms of degree. See Interval Licensing LLC v. AOL, Inc., 766 F.3d 1364, 1374 (Fed. Cir. 2014). And the Federal Circuit has reaffirmed its line of cases holding terms of degree may be definite where the patent provides enough certainty to one of skill in the art when read in the context of the invention. See id. at 1370 (“We do not understand the Supreme Court to have implied in [Nautilus], and we do not hold today, that terms of degree are inherently indefinite. Claim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the

invention.”); Biosig Instruments, Inc. v. Nautilus, Inc., 783 F.3d 1374 (Fed. Cir. 2015) (upholding the validity of the patent at issue in Nautilus on remand from the Supreme Court).

Here, the word “principally” is sufficiently definite in light of the specification’s description of the rigidity of the support member. The specification specifically defines the term “rigid” as “principally rigid” and “inclusive of a minor amount of flexibility.” It also goes on to explain that the support member “may exhibit some resiliency due to significant loads being placed thereon.” ‘529 Patent col. 7 ll. 21–24. Thus, the term “principally” is appropriately read into the construction of “rigid” because the ‘529 patent provides “some standard for measuring that degree” of rigidity in the specification, which would inform a person skilled in the art that the device is mostly rigid but may be slightly flexible under the weight of significant loads. Nautilus, 783 F.3d at 1378 (quoting Enzo Biochem, Inc. v. Applera Corp., 599 F.3d 1325, 1332 (Fed. Cir. 2010)) (“When a ‘word of degree’ is used, the court must determine whether the patent provides ‘some standard for measuring that degree.’”); Seattle Box Co., Inc. v. Indus. Crating & Packing, Inc., 731 F.2d 818, 826 (Fed. Cir. 1984). The Court rejects Zamp’s proposed construction of the term “rigid” in favor of Simpson’s proposed construction of *principally rigid with no more than a minor amount of flexibility*.

14. *Angles upwards and forwards*

Simpson contends the claim term “angles upwards and forwards” does not require construction, as its ordinary and customary meaning is *at least one rear tether angles upwards and forwards from the support member to the helmet when the support member is worn by the driver in the seated position in the vehicle*. Initially, Zamp argued construction is necessary and that the proper construction is *the rear tether extends upward and forward relative to the driver when viewed from the support-member attachment to the helmet attachment, at an angle of between*

twenty-five and forty-five degrees from vertical. However, in the Claim Construction Chart submitted per P.R. 4.5(E) and during the Markman hearing, Zamp conceded that this term does not require construction by the Court. Since the parties have agreed that construction is not necessary, the Court will not construe this claim term.

15. *Angles inwards from the support member to the helmet*

Simpson contends the phrase “angles inwards from the support member to the helmet” does not require construction, as its ordinary and customary meaning is *at least one rear tether angles inwards from the support member to the helmet when the support member is worn by the driver in the seated position in the vehicle.* Zamp initially argued construction is necessary and that the proper construction is *the side tethers extend upward and inward relative to and towards the driver when viewed from their support-member attachments to their corresponding helmet attachments, at an angle of between ten and fifteen degrees from vertical.* However, in the Claim Construction Chart submitted per P.R. 4.5(E) and during the Markman hearing, Zamp conceded that this term does not require construction by the Court. Since the parties have agreed that construction is not necessary, the Court will not construe this claim term.

16. *An intermediate portion*

Simpson contends that this term does not require construction, as its ordinary and customary meaning indicates that an intermediate portion of the rear tether *is a portion between the opposed end portions that is attached to the support member.* Zamp argues construction is necessary and that the proper construction is *a portion of the strap or tether between its two terminal ends.* Simpson does not disagree that an intermediate portion is between end portions of the “at least one rear tether.” Plaintiff does, however, challenge defendant’s position that “an intermediate portion” of a tether must necessarily be between “two terminal ends.”

The Court finds “an intermediate portion” does not require construction but rejects Simpson’s assertion that the term’s ordinary and customary meaning is *an intermediate portion between two opposed end portions attached to the support member*. While this meaning is correct with regard to the intermediate portion of a rear tether, the phrase “an intermediate portion” is also used in the specification to describe front tethers. And front tethers do not have an intermediate portion attached to the support member. According to the ‘529 patent, the rear tether is the only tether described as having an intermediate section attached to the support member. A front tether, on the other hand, is described as having an intermediate portion attached to the shoulder and/or torso straps—*not* to the support member. Thus, Simpson’s assertion about the ordinary meaning of “an intermediate portion” is not appropriate in the context of front tethers.

Zamp’s proposed construction is inappropriate because it simply mirrors one example described in the definition of “tether.” While the ‘529 patent does not expressly define “an intermediate portion,” the specification uses a similar phrase to describe one possible embodiment of a tether. See ‘529 Patent col. 4 ll. 58–61 (“[W]here the tether is one continuous length having terminal ends available for attaching to a helmet and **an intermediate section** attached to an embodiment of the restraint device (an example of which is rear tether 18 of FIG. 1).”) (emphasis added). However, this is merely an example and is not meant to define or limit the meaning of the phrase “an intermediate portion.” Nor is the examples list meant to be a comprehensive list of all possible embodiments. See id. ll. 54–55 (“the term tether includes, **without limitation**”) (emphasis added); see also id. ll. 2–7 (indicating in the Description of the Preferred Embodiments section that examples and embodiments listed in the ‘529 patent are not meant to be comprehensive or limiting). It would be inappropriate to adopt limiting language simply because the patent uses

a similar phrase to describe one possible embodiment, especially where other areas of the patent suggest the phrase has a broader meaning.

There is nothing to suggest a tether with an intermediate attachment *must* have “two terminal ends.” Just as there is nothing to suggest that such terminal ends, where they exist, must both attach to the helmet. This is evident in the description of a front tether, which includes the term-in-question, yet it attaches to the chin of the helmet at one end and to the vehicles seat belt assembly at the other. The phrase “an intermediate portion” is used several times in the ‘529 patent in a manner inconsistent with the terminal-ends example and, consequently, inconsistent with Zamp’s proposed construction. The meaning of the term “opposed end portions” would be readily understood by the person skilled in the art without adding limitations (such as “terminal”) that the language of the claim does not require. The Court thus finds that the plain and ordinary meaning of this term is clear, and thus does not require construction. Regarding the rear tether(s) only, the term “an intermediate portion” has an ordinary and customary meaning of *an intermediate portion of the rear tether is a portion between the opposed end portions that is attached to the support member*. Markman Hr’g Tr. (#29) at 23.

17. *Opposed end portion*

Simpson contends the claim term “opposed end portion” in claims 8 and 14 does not require construction, as its ordinary and customary meaning is *an opposed end portion of the rear tether is one of the two end portions that are for attachment to respective sides of the helmet*. *Id.* at 21. Zamp argues construction is necessary and the proper construction is *the two terminal ends of the strap or tether on either side of the intermediate portion of the strap or tether*.

Zamp claims its proposed definition “is consistent with the specification, and the prior definition of tether.” See Def. Resp. Br. (#17) at 23 (citing ‘529 Patent col. 8 ll. 61–64). Zamp

cites for support column 8 of the ‘529 patent, lines 61 through 64, however, not the definition of “tether” contained in column 4. The lines cited by Zamp merely describe an exemplary embodiment of one type of rear tether. See id. (citing ‘529 Patent col. 8 ll. 61–64). Just as the relevant portion of the definition of “tether” is merely an exemplary embodiment of one type of tether. While Zamp’s construction is certainly consistent with these examples, this definition would improperly limit claims 8 and 14 and restrict the invention as to those embodiments only, even though the ‘529 patent allows for other possible embodiments.

For the same reasons the Court rejected defendant’s “two terminal ends” limitation in section V.2, it rejects the suggestion that the term “opposed end portions” *must* refer to a tether’s “two terminal ends.” The inclusion of the word “portions,” as opposed to simply “opposed ends,” suggests patentee did not want to limit the phrase by referring to two finite end points. Moreover, the Description of the Preferred Embodiments section expressly provides that examples are not meant to be comprehensive or limiting. See supra section V.2 (quoting ‘529 Patent col. 4 ll. 2–7). The intrinsic record, therefore, cannot support a definition of “opposed end portions” which includes Zamp’s proposed “two terminal ends” limitation. And the Court will not read a limitation into the claims where the specification does not require such limitation. In re Marosi, 710 F.2d at 802 (holding claim limitations “are to be interpreted in light of the specification in giving them their ‘broadest reasonable interpretation.’” (quoting In re Okuzawa, 537 F.2d at 548).

The Court finds the term “opposed end portions” does not require construction because a person skilled in the art would understand, upon reviewing the entirety of the patent, the term refers to *an opposed end portion of the rear tether* and, in the context of the rear tether, means *one of the two end portions that are for attachment to respective sides of the helmet*. The ‘529 patent makes a clear effort to encompass various embodiments of the claimed device, for example, by broadly

defining terms like “tether” and “attach.” Patentee’s decision to include the word “portions” indicates an effort to ensure that related terms are consistent with one another throughout the ‘529 patent and that the claims themselves are drafted in a way that encompasses the invention in all its various possible forms. The Court will not construe the claim term by reading a limitation from the written description into the claims. See SciMed Life Sys., Inc., 242 F.3d at 1340 (calling such a construction “one of the cardinal sins of patent law”). To do so here would preclude certain embodiments from the scope of the ‘529 patent.

18. Does not pass directly vertically above

Simpson contends the term “does not pass directly vertically above” in claim 18 does not require construction by the Court, as its ordinary and customary meaning is that *the side tethers do not pass through the areas directly vertically above the shoulder belts when the support member is worn by a seated driver*. Pl.’s Br. (#16) at 21. Zamp argues construction is necessary and the proper construction is *no portion of a side tether passing directly above any portion of a shoulder belt when the device is connected to a helmet and the wearer is sitting in an upright seated position and wearing a seat belt with shoulder belts*.

Zamp attempts to apply the same construction to this term as the term “not disposed directly vertically above,” discussed in the next section. It argues that these terms appear to be used interchangeably to describe the position of the side tethers relative to the shoulder belts. Zamp claims its proposed definitions make clear that no portion of the side tether may pass directly above any portion of the shoulder belt. Def.’s Resp. Br. (#17) at 24.

Simpson argues Zamp’s position is presumptively incorrect because the claim terms use different words; therefore, they are presumed to have different meanings. Therefore, if defendant is correct as to one of these claim terms, it could not also be correct as to the other. Furthermore,

Simpson maintains that construction is not necessary because “does not pass directly vertically above” and “not disposed directly vertically above” have different meanings. “Pass . . . above” tends to connote something akin to *cross over*. Whereas “disposed . . . above” implies something is *positioned* above something but does not necessarily intersect overhead.

The Court agrees with Simpson’s position and declines to construe this claim term. Zamp attempts to define the phrase using a variation of the phrase itself (“pass[ing] directly above”) but inserts unnecessary qualifiers such as “no” and “any” to enhance the absoluteness of the statement. Also unnecessary is Zamp’s exceedingly specific language regarding the position of the support device and the driver (e.g., “in an upright position”). This stringent definition attempts to incorporate a level of rigidity that is not required by the claim or the specification. Accordingly, the Court rejects Zamp’s limiting construction and finds that construction of this claim term is not necessary.

19. *Not disposed directly vertically above*

Simpson contends the claim term “not disposed directly vertically above” does not require construction by the court, as its ordinary and customary meaning indicates *the side tethers are not located in the areas directly vertically above the shoulder belts when the support member is worn by a seated driver*. Zamp argues construction is necessary and proposes the same construction that it proposed for the previous claim term (“does not pass directly vertically above”): *no portion of a side tether passing directly above any portion of a shoulder belt when the device is connected to a helmet and the wearer is sitting in an upright seated position and wearing a seat belt with shoulder belts*.

Simpson again challenges Zamp’s attempt to apply the same construction to this claim term that it proposed for the previous term. See supra, section V.18 (challenging construction of “does

not pass directly vertically above” on the exact same grounds). Simpson argues the two claim terms use different words and, therefore, are presumed to have different meanings. Zamp maintains it cannot distinguish a difference between the two terms because they are indefinite and there are no terms in the specification that are on point. As explained above, however, Zamp’s proposed construction attempts to limit the claim term by including unnecessary language not supported by intrinsic evidence. The Court finds construction of this claim term is not required because one skilled in the art would understand its ordinary and customary meaning indicates *the side tethers are not located in the areas directly vertically above the shoulder belts when the support member is worn by a seated driver*.

VI. Conclusion

Based on the foregoing, the Court provides the following claim constructions for the remaining disputed claims:

Claim Term in Dispute	Court’s Construction
“A restraint device having a system of tethers, and a helmet cooperating with the tethers, for controlling a driver's head during operation of a vehicle, comprising:” (preamble)	A restraint device including a system of tethers for use with a driver’s helmet for controlling a driver’s head during operation of a vehicle.
“tether”	This term does not require construction by the Court.
“tethers”	This term does not require construction by the Court.
“at least one rear tether”	A single rear tether having portions for attaching to a helmet or multiple rear tethers each having a portion for attaching to a helmet.
“a pair of side tethers”	A first side tether and a second side tether for attachment to a first side and

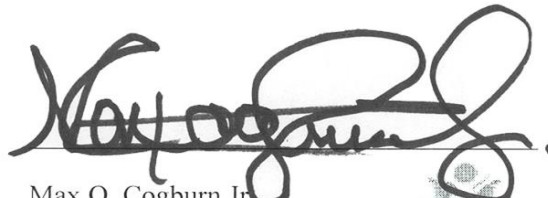
Claim Term in Dispute	Court's Construction
	a second side of the helmet, respectively.
"jointly attached to the helmet at a single attachment point on each respective side of the helmet"	When attached to the helmet, the rear and side tethers attach at a first common attachment location on a first side of the helmet and at a second common attachment location on a second side of the helmet, respectively.
"jointly attached"	The term "jointly attached" does not require construction by the Court.
"rigid"	Principally rigid with no more than a minor amount of flexibility.
"principally without being laterally angled"	Extending generally vertically
"a support member"	AGREED – The parties have agreed that the support member is the structure of the restraint device (other than a system of straps) that is attachable to the driver's helmet via the claimed system of tethers.
"adapted for being disposed between"	AGREED – The parties have agreed that this term does not require construction by the Court.
"engage"	In communication with another article without being coupled together.
"in relation to the driver"	This term does not require construction by the Court.
"angles upwards and forwards"	AGREED – The parties have agreed that this term does not require construction by the Court.
"angles inward[s] from the support member to the helmet"	AGREED – The parties have agreed that this term does not require construction by the Court.
"an intermediate portion"	This term does not require construction by the Court.

Claim Term in Dispute	Court's Construction
"opposed end portion"	This term does not require construction by the Court.
"does not pass directly vertically above"	This term does not require construction by the Court.
"not disposed directly vertically above"	This term does not require construction by the Court.

IT IS SO ORDERED.

IT IS FURTHER ORDERED that this case be referred to Magistrate Judge Keesler for the entry of an appropriate Pretrial Order and Case Management Plan.

Signed: March 5, 2019



Max O. Cogburn Jr.
United States District Judge